What is claimed is:

1. A peptide of the formula:

$$\begin{array}{c} R^1 \quad R^2 \\ | \quad | \\ H\text{-}Tyr\text{-}Z^1\text{-}Tyr\text{-}Z^2\text{-}X\text{-}Y \end{array}$$

wherein R^1 and R^2 are the same or different and each represents SO_3H or H; X represents an α-amino acid or a single bond; Z^1 and Z^2 are the same or different and each represents an α-amino acid; and Y represents OH or NH_2.

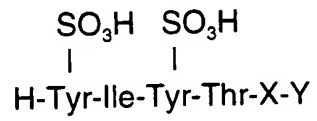
2. A plant growth promoter comprising the peptide as claimed in claim 1.

3. The peptide of claim 1, wherein the α-amino acid represented by X is glutamine.

4. The peptide of claim 1, wherein the α-amino acid represented by Z^1 is valine or isoleucine.

5. The peptide of claim 1, wherein the α-amino acid represented by Z^2 is serine or threonine.

6. A peptide of the formula:



wherein X represents glutamine or a single bond; and Y represents OH or NH_2.

7. The peptide of claim 6, wherein X is glutamine and Y is OH.

8. The peptide of claim 6, wherein X is a single bond and Y is OH.

9. A method of isolating from a plant a conditioned medium containing the peptide of claim 1, comprising:

a) collecting cells from a plant,

b) incubating the collected cells in a plant cell cultivation medium, and

c) separating a conditioned medium containing the peptide of claim 1 from the cells.

10. The conditioned medium obtained by the method of claim 9 which contains the peptide of claim 1.

11. A method of isolating the peptide of claim 1 from the conditioned medium of claim 10, comprising:

a) swelling an anion-exchange resin with a buffer,

b) introducing the conditioned medium to the resin so that the peptide is adsorbed to the resin,

c) collecting the peptide through elution with salts,

d) desalting the peptide, and

e) separating the peptide.

12. A method of synthesizing the peptide of claim 1, comprising:

a) synthesizing a peptide skeleton of the formula:

H-Tyr-Z^1-Tyr-Z^2-X-Y

wherein X represents an α-amino acid or a single bond; Z^1 and Z^2 are the same or different and each represents an α-amino acid; and Y represents OH or NH_2, and

b) sulfating the peptide skeleton with an enzyme capable of bonding s sulfate group to the side chain of a tyrosine residue.

13. The method of isolating from a plant of claim 9 a conditioned medium containing the peptide of claim 1, wherein the plant is a monocotyledon.

14. A method of promoting plant growth by administering the conditioned medium of claim 10 to a plant.

15. A method of promoting plant growth comprising administering the peptide of claim 1 to a plant.

16. The method of promoting plant growth of claim 15, wherein the plant is a monocotyledon.

17. The method of promoting plant growth of claim 16, wherein the monocotyledon is asparagus, rice or maize.

18. A plant growth factor obtained by collecting cells from liliaceous plants, incubating the collected cells in a plant cell cultivation medium, and separating said plant growth factor from the cells through centrifugation.

19. A plant growth factor, wherein the plant growth factor has the following physico-chemical properties:

a) it is easily soluble in water, but is hardly soluble in ethanol and acetone;

b) it is acidic;

c) it keeps 70% of its activity, after being heated at 100°C for 10 minutes and it is deactivated, after being autoclaved at 121°C for 20 minutes;

d) it is a polar substance, and is not retained in reversed-phase columns with Cosmosil 75C_{18}-OPN and Diaion HP-20;

e) it is stable at pH of 3 to 9, but at pH 11, its activity is reduced to 60%;

f) it is deactivated by Pronase E, but its activity is still kept even when treated with Glycosidases "Mixed"; and

g) it is strongly adsorbed to DEAE Sephadex A-25 ion-exchange resin (and eluted with 1000 mM KCl), but it is not adsorbed at all to CM Sephadex C-25.